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# PATENT SPECIFICATION

## DRAWINGS ATTACHED

1.006.000



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### COMPLETE SPECIFICATION

#### Improvements in or relating to Devices for Trimming Grass at the Edges of Lawns

We JOHN MAXWELL MARSHALL, a British subject, of 15, Cheriton Avenue, Bromely, Kent, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The invention relates to edge trimmers and cutters for trimming the edges of grass lawns and is more particularly concerned with appliances for the stated purpose which consist of a rotary cutter and a roller of smaller diameter than that of the cutter, both concentrically mounted upon a spindle to which a handle may be attached.

The primary object of the present invention is to provide a modified construction of such edge trimmers and cutters which will be particularly adapted to the trimming of the edge of a grassed area bordered by a stone, paved, or concrete surface (hereinafter referred to as the path). In operating the majority of edge trimmers mounted upon rollers the roller is propelled over the surface of the grass. In the device described in this specification the roller moves on the surface of the path.

According to one feature of the invention the spindle is mounted at one end only, that end being attached to a handle, the roller being positioned between the handle and the rotary cutter. The object of this feature is that if the roller be rolled along the surface of the path, with the cutter slicing through the grass and earth along the line dividing the lawn from the path, the face of the cutter which is towards the lawn will be smooth and flush, without any projections which might impede its progress. The edge of the lawn is trimmed by the shearing action of the cutter in co-operation with the edge of the path.

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According to another feature a scraper is mounted on the spindle for the purpose of preceding the roller along the path and clearing its track of severed grass and earth. Provision is made for this scraper, or a separate scraper, also mounted on the spindle, to cleanse the roller of adhering grass and earth.

The scraper, or scrapers, can be adjusted to function in an identical manner when the device is moved in either direction along the border line, for right or left hand cutting.

In order that the said invention may be clearly understood and readily carried into effect the same will now be more fully described with reference to the accompanying drawings, in which:—

Fig. 1 is a side elevation of one form of lawn edge trimmer produced in accordance with the specification.

Fig. 2 is a rear elevation of the lawn edge trimmer shown in Fig. 1.

Fig. 3 is a plan of the lawn edge trimmer shown in Fig. 1.

Fig. 4 shows the detail of the scrapers incorporated in the lawn edge trimmer shown in Fig. 1.

Fig. 5 shows an alternative form of scrapers that may be incorporated in the lawn edge trimmer shown in Fig. 1.

In the invention as illustrated in these drawings the roller is indicated at (a). The rotary cutter is in the form of a thin disc, which is indicated at (b) and is secured in position to one end thereof. The said rotary cutter is of greater diameter than the roller and its outer peripheral edge, which may be a plain circle, or serrated, or sprocket-toothed, is preferably chamfered or backed-off as illustrated in Figs. 1, 2 and 3.

The cutter and the roller rotate freely about a spindle (c), being retained on the

spindle, at one end, by a stud or head recessed into the circular cutter so that its end is flush with the face of the cutter. The other end of the spindle protrudes beyond the roller and is mounted on, and at right angles to, the lower end of an upwardly extending handle (d) by which the device is held and propelled by the user. Between the roller and the handle a side plate (e) is mounted on the spindle which passes through a hole in the plate with sufficient clearance to allow the plate to move freely about the spindle.

In the arrangement of scrapers illustrated in Figs. 1, 2, 3 and 4 the side plate (e) has attached to it two scrapers (f) and (g). The scraper (f) is provided for the purpose of removing severed debris from the path to prevent it fouling the roller. It takes the form of a vertical plate, the whole of which is, and moves, outside the radius of the roller. One vertical edge of the scraper is attached to the plate (e). The other vertical edge is in sliding contact with the inside face of the rotary cutter. The whole of the scraper lies behind the point of shearing contact between the edge of the rotary cutter and the edge of the path. The scraper may be mounted at any angle with the side-plate provided the foregoing requirements are met and it may be of a variety of plan sections. The preferred shape is a curve forming the arc of a circle. The scraper has two horizontal scraping edges (h1 and h2), one of which is in contact with the path in left-hand cutting and the other being brought into contact with the path on the opposite side of the roller for right-hand cutting.

The scraper (g) is provided for the purpose of removing from the roller any debris which may have escaped scraper (f), as when the latter scraper is raised to avoid obstructions, and which may have adhered to the roller. It is a flat plate mounted horizontally at right angles to the side plate (e) to which it is attached rigidly at one end. It has a straight edge spaced slightly from the curved face of the roller and running parallel with its axis, this edge serving to maintain the roller in a clean and efficient working condition.

The side plate (e) also has attached to it a lug (k) mounted at right angles to the side plate in the way of the handle. This lug serves as an attachment bracket for a spring (m) and also as a stop lever by means of which the scraper (f) may be lifted off the path by the action of lowering the handle (d) and so may be carried over obstructions. The other end of the spring (m) is attached to a stud on the handle which stud may be extended to form a fixed or folding foot rest whereby a greater pressure may be exerted upon the rotary cutter. The purpose of the spring is to exert pressure on the scraper (f) when in contact with the path.

In the design illustrated the scrapers (f) and (g), the side plate (e) and the lug (k) are formed in one piece from one metal sheet.

To adjust the lawn edge trimmer for cutting in the opposite direction the side plate (e) is turned on the spindle through an angle of 180 degrees so that the scraper (f) passes over the top of the roller to the other side.

In an alternative arrangement of scrapers illustrated in Fig. 5 the radius of the side plate (e) from the centre of the spindle to the forward edge is less than the radius of the roller. There are two scrapers, (f1) and (f2), each of which has one edge which can be brought into contact, throughout its length, with the path; and another edge, spaced slightly from the curved edge of the roller throughout its length which serves to maintain the roller in a clean and efficient working condition. The spring (m in the other Figs.) is attached to a lug or bracket (k). The scraper is lifted over obstructions on the path by means of either of two pins, (n1) and (n2), fixed to the side plate (e) in the way of the handle, by the action of lowering the handle against the pin. Alternatively a projecting stud or pin (not illustrated) may be so mounted upon the handle that when the handle is depressed the stud or pin comes into contact with the upper face of whichever of the two scrapers is uppermost and so raises the other scraper from the path.

#### WHAT WE CLAIM IS:—

1. An edge trimmer for trimming the edges of lawns having a rotary cutter and a roller carried on the same spindle, which spindle is attached to a handle at one end only, the arrangement being such that the roller is between the rotary cutter and the handle.

2. An edge trimmer for trimming the edges of lawns, having a rotary cutter and a roller carried on a spindle, in which an arrangement of scrapers for removing severed grass, earth and the like debris from the path of the roller, or from the roller itself, or from both, is mounted on the same spindle.

3. An edge trimmer as claimed in Claim 2 above, in which the scrapers may be rotated about the axis of the spindle to make contact, on either side of the roller, with the surface on which the roller operates, so as to provide optional left-handed or right-handed arrangements of scrapers in similar configurations in the two alternative positions, thus permitting the device to be operated in either direction along the edge of the lawn.

4. An edge trimmer substantially as hereinbefore described with reference to the accompanying drawings.

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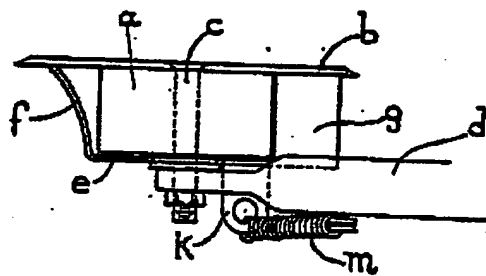
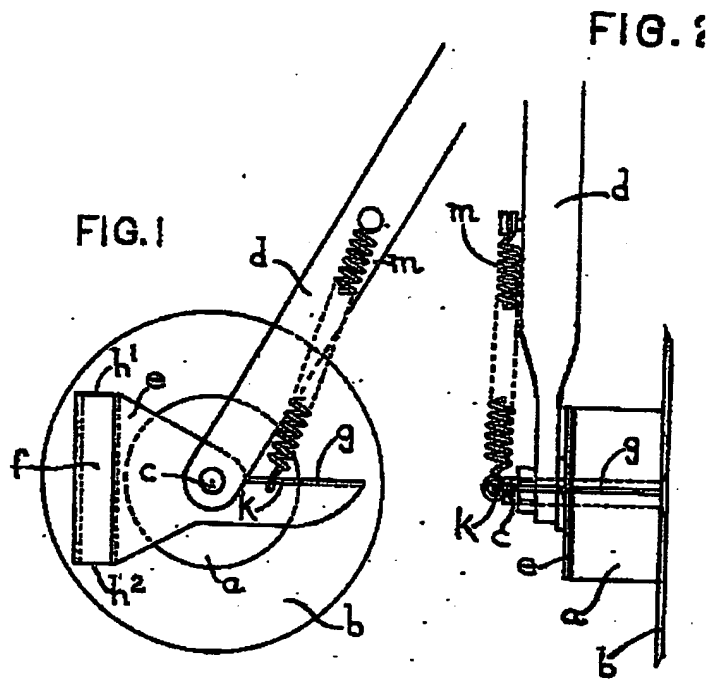


FIG. 2

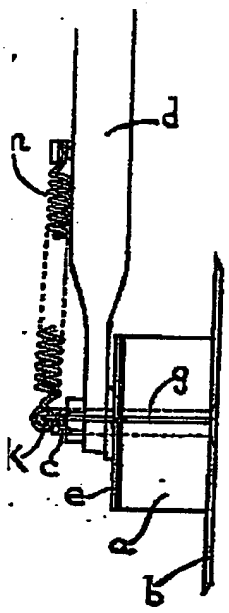


FIG. 4

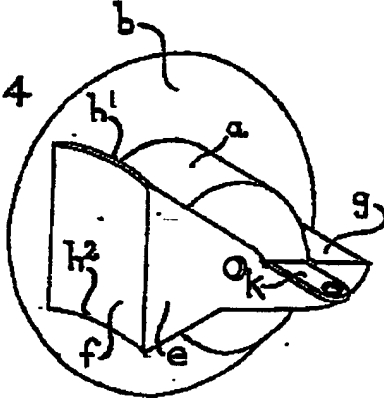


FIG. 5

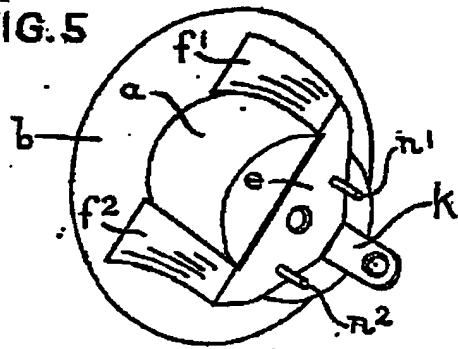


FIG. 2

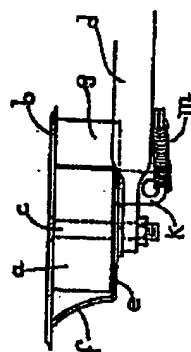
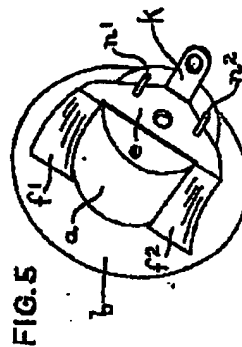
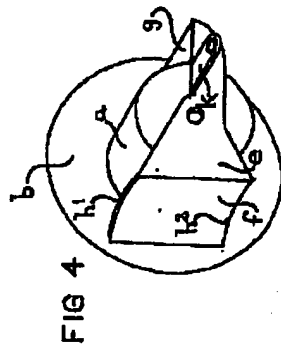
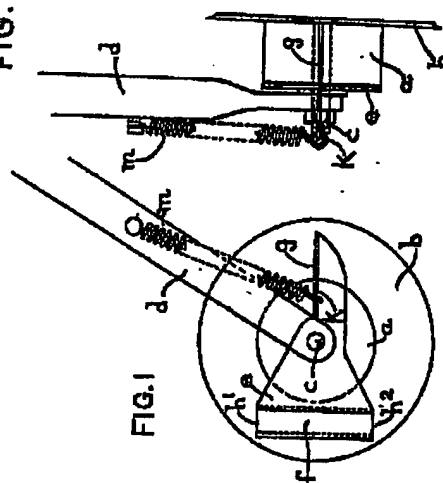


FIG. 3